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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/580,599	07/06/2007	Scott L. Diamond	133001.00301	4970
21369 7590 04/02/2008 PEPPER HAMILTON LLP ONE MELLON CENTER, 50TH FLOOR 500 GRANT STREET PITTSBURGH, PA 15219				
EXAMINER				
LAM, ANN Y				
ART UNIT		PAPER NUMBER		
1641				
MAIL DATE		DELIVERY MODE		
04/02/2008		PAPER		

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

### Office Action Summary

**Application No.**

10/580,599

**Applicant(s)**

DIAMOND ET AL.

**Examiner**

ANN Y. LAM

**Art Unit**

1641

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 25 May 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-47 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-47 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SF/ICE)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

## DETAILED ACTION

### *Double Patenting*

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

Claims 1-19 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-19 of U.S. Patent No. 7,297,501.

Although the conflicting claims are not identical, they are not patentably distinct from each other because the claims recite essentially all the same limitations.

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 22, 23, 24, 25, 26, 27, 38 and 40 rejected under 35 U.S.C. 102(e) as being anticipated by Natan et al. 20020146745

As to claims 22, 38,

Natan et al. teach detection and identification of multiple analytes in complex biological samples. More particularly, it relates to a method of capturing analytes from solution using capture probes that self-assemble at defined locations on an array for subsequent analysis by methods such as mass spectrometry (paragraph 0002.) Following a binding assay (paragraph 0032), detecting of the captured analytes is performed by mass spectrometry, preferably using matrix-assisted laser desorption ionization time-of-flight (MALDI-TOF) mass spectrometry. In one embodiment, the substrate supporting the capture oligonucleotides is a gold MALDI plate, and bound analyte is not removed from the plate before being interrogated. After capture probe self-assembly, the plate is quickly washed, dried and sprayed with a matrix solution before being subjected to MALDI-TOF (paragraph 0069.)

As to claims 22, 23, 24, 25, the reactants and reagents are one of the binding partners in the assay. While the method of contact of is not disclosed as depositing, such a step is obvious as a technique such as printing reagents onto a substrate is known in the art as disclosed by Natan et al. in paragraph 0005, citing a reference regarding printing of proteins.

As to claim 27, the reagents and reactants can be nucleotides (paragraph 0062).

As to claim 40, the diffusion as recited would naturally occur.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 28-32, 37, 39 and 41 are rejected under 35 U.S.C. 103(a) as being unpatentable over Natan et al. 20020146745, in view of Hyldig-Nielsen et al., 5,888,733.

As to claim 28, while Natan et al. disclose the drying step (paragraph 0069), Natan et al. do not disclose humidifying the plate. Hyldig-Nielsen et al. however disclose a step of performing a reaction in a humid chamber (col. 18, lines 13-28). Performing the assay step of Natan et al. in a humid chamber (which is equivalent to humidifying the plate) would have been obvious to the skilled artisan as the skilled artisan would recognize that the humid chamber prevents the reagents/reactants from drying, which might hinder the reaction as most reactions occur in liquid form. (It is

noted that the claim does not recite the order of steps regarding the humidifying step.) The remainder of the steps have been discussed above regarding the Natan et al. reference.

As to claim 29, the reagents and reactants can be nucleotides (paragraph 0062).

As to claim 32, the drying step disclosed by Natan et al. (paragraph 0069) are at the least air drying.

As to claim 41, the reagent may be a drug (paragraph 0033.)

As to claims 30, 31, 37, 39, these parameters appear to relate to workable ranges of steps that are generally disclosed by Natan et al. as discussed above, and as such these parameters would have been obvious to the skilled artisan.

Claims 33-36, 42-47 are rejected under 35 U.S.C. 103(a) as being unpatentable over Natan et al. 20020146745, in view of Hyldig-Nielsen et al., 5,888,733, and further in view of Caprioli 5,808,300.

Natan et al. in view of Hyldig-Nielsen et al. disclose the invention substantially as claimed (see above) except for the matrix being deposited by aerosol deposition. Such a limitation however is taught by Caprioli.

Caprioli teach a MALDI analysis method as follows. Two sample preparation methods were used to obtain signals from biological samples: rinsing the sample in saturated DHBA dissolved in Milli Q water and coating samples by electrospraying a

solution of CHCA. Pituitary tissue samples were prepared by rinsing in a saturated solution of DHBA dissolved in Milli Q water. Excess matrix solution was removed by pipetting, and the sample allowed to dry thoroughly at least 18 hours in a vacuum desiccator prior to analysis by MALDI-MS. For electrospray coating of samples, a 250 .mu.L gas tight syringe was filled with matrix solution. The matrix solution was centrifuged briefly to remove particulate matter and transferred to a clean amber colored Eppendorf tube. A syringe pump delivered the matrix solution to the tip of the fused silica capillary needle. A fine spray of the matrix solution was obtained. The plate was then pulled across in front of the spray. Matrix could be seen on the sample. Once the matrix had been applied, the sample was placed into a vacuum desiccator and allowed to dry at least for 10 minutes (overnight drying is acceptable) before analysis by MALDI-MS (col. 19, lines 2-46.) Thus, Caprioli disclose a technique of spraying the MALDI matrix and the skilled artisan would simply recognize that such technique can also be used for the same purpose in the Natan et al.-in view of—Hyldig-Nielson et al. invention, namely to apply the MALDI matrix.

As to claims 34, 35, 44, 45, 46 and 47, these parameters appear to relate to workable ranges of steps that are generally disclosed by Natan et al. as discussed above, and as such these parameters would have been obvious to the skilled artisan.

***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to ANN Y. LAM whose telephone number is (571)272-0822. The examiner can normally be reached on Mon.-Fri. 10-6:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Long Le can be reached on 571-272-0823. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Ann Y. Lam/  
Primary Examiner, Art Unit 1641



